CLAIMS

What is claimed is:

1.   A system for wireless bridging between networks comprising:

a master switch, the master switch including an associated plurality of master switch wireless modules, each of plurality of master switch wireless modules including means for selectively broadcasting an associated connection signal;

a master switch aggregation port associated with the master switch, the master switch aggregation port being in data communication with each of the plurality of master switch wireless modules, the master switch aggregation port including means for selectively routing data among the plurality of master switch wireless modules;

a slave switch, the slave switch including an associated plurality of slave switch wireless modules, each of the plurality of slave switch wireless modules including means for receiving one associated connection signal and means for establishing a wireless data communication link with a master switch broadcasting the associated connection signal after receipt thereof; and

a slave switch aggregation port associated with the slave switch, the slave switch aggregation port being in data communication with each of the plurality of slave switch wireless modules, the slave switch aggregation port including means for selectively routing data among the plurality of slave switch wireless modules.

2.   The system for wireless bridging between networks of claim 1, wherein each aggregation port includes means for detecting a loss of at least one connection signal, and wherein the means for selectively redirecting is activated in accordance with an output thereof.

3.   The system for wireless bridging between networks of claim 2 further comprising means for balancing data flow among at least one of the plurality of master wireless switch modules.

4.   The system for wireless bridging between networks of claim 2 further comprising means for balancing data flow among at least one of the plurality of slave wireless switch modules.

5   5.   The system for wireless bridging of claim 1 wherein each of the plurality of wireless modules includes means for transmitting data via radio frequency transmission.

6.   The system for wireless bridging of claim 5 wherein the aggregation ports operate in connection with a selected port aggregation protocol.

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7.   The system for wireless bridging of claim 6 wherein the port aggregation protocol is at least one of a Cisco Port Aggregation Protocol and an IEEE 802.1ad port aggregation protocol.

15   8.   The system for wireless bridging of claim 5 further comprising:
means for establishing a weighting value associated with alternative data communication paths between a selected master wireless module and at least two the plurality of slave switch wireless modules; and
wherein the means for establishing a wireless data communication link includes means
20   for selectively establishing the wireless data communication between the selected master wireless module and a selected slave switch wireless module in, which selection is made accordance with the weighting value.

9.   The system for wireless bridging of claim 5 further comprising:
25   means for establishing a weighting value associated with alternative data communication paths between a selected salve wireless module and at least two the plurality of master switch wireless modules; and
wherein the means for establishing a wireless data communication link includes means for selectively establishing the wireless data communication between the selected slave wireless
30   module and a master slave switch wireless module in, which selection is made accordance with the weighting value.

10. A method of wireless bridging between networks comprising the steps of:

selectively routing data among a plurality of master switch wireless modules, associated with a master switch, via a switch aggregation port associated therewith;

5 selectively broadcasting a connection signal from each of the plurality of master switch wireless modules;

receiving one associated connection signal into each of a plurality of slave switch wireless modules associated with a slave switch;

establishing at least one wireless data communication link between master switch

10 modules broadcasting the associated connection signal and an associated one of the plurality of slave switch wireless modules after receipt of the connection signals; and

selectively routing data among the plurality of slave switch wireless modules via a slave switch aggregation port associated therewith.

15 11. The method of wireless bridging between networks of claim 10 further comprising the steps of:

sensing a loss of at least one connection signal; and

selectively redirecting data among at least one a) the master switch wireless modules and b) the slave switch wireless modules in accordance with a sensed lost connection

20 signal.

12. The method of wireless bridging between networks of claim 11 further comprising the step of balancing data flow among at least one of a) the plurality of master wireless switch modules and b) the plurality of slave wireless modules.

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13. The method of wireless bridging of claim 10 further comprising the step of transmitting data via radio frequency transmission with each of the plurality of wireless modules.

14. The method of wireless bridging of claim 13 further comprising the step of

30 controlling the aggregation ports operate in connection with a selected port aggregation protocol.

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15. The method of wireless bridging of claim 14 wherein the port aggregation protocol is at least one of a Cisco Port Aggregation Protocol and an IEEE 802.1ad port aggregation protocol.

16. The method of wireless bridging of claim 13 further comprising the steps of:

establishing a weighting value associated with alternative data communication paths between a selected master wireless module and at least two of the plurality of slave switch wireless modules; and

selectively establishing a wireless data communication links between the selected master wireless module and a selected slave switch wireless module of the at least two of the plurality thereof, which selection is made accordance with the weighting value.

17. The method of wireless bridging of claim 13 further comprising the steps of:

establishing a weighting value associated with alternative data communication paths between a selected slave wireless module and at least two the plurality of master switch wireless modules; and

module and a master slave switch wireless module in, which selection is made accordance with the weighting value.

selectively establishing a wireless data communication links between the selected slave wireless module and a master slave switch wireless module of the at least two of the plurality thereof, which selection is made accordance with the weighting value.

18. The method of claim 13 wherein the connection signal further comprises a beacon signal, wherein the beacon signal includes a service set identifier identifying at least one of the plurality of master wireless modules having a service set identifier matching a service set identifier of at least one of the plurality of slave wireless modules.

19. The method of claim 18, wherein the service set identifier is an IEEE 802.11 Service Set Identifier and the beacon is at least one of an 802.11 Beacon and an 802.11 Probe Response.

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20.   The method of claim 13, wherein the master switch includes a switch identifier, the switch identifier transmitted by at least one the plurality of master switch wireless modules.

21.   The method of claim 20, wherein at least one of the slave switch wireless modules of the slave switch are connected to at least one of the master switch wireless modules of the master switch and unconnected master switch wireless modules of the master switch transmit a beacon identifying the master switch to the unconnected slave switch wireless modules of the slave switch.

22.   The method of claim 21, wherein the beacon is at least one of an IEEE 802.11 Beacon and an IEEE 802.11 Probe Response.

23.   The method of claim 10, further comprising the step of transmitting from the master switch to a plurality of slave switches a single copy of a multicast frame using a selected multicast transmission protocol.